

REMARKS

Request for Reconsideration & Claims Pending

The application stands subject to a non-final Office Action mailed on 17 March 2011. Reconsideration of the claimed invention in view of the discussion below is respectfully requested.

The claims were amended for consistent use of the term "communication".

Claims 34-55 are pending.

Arguments re: Bajikar

Rejection Summary

Original Claims 34-36, 40, 42, 44-48 and 52-55 stand rejected under 35 USC 102(e) for anticipation by U.S. Patent No. 7,126,527 (Bajikar).

Discussion of Claim 34

Regarding Claim 34, Bajikar fails to disclose a

... method in a mobile wireless communication handset, comprising:

receiving base station location information of a cellular communication base station;

receiving base station cellular area information for the cellular communication base station for which the base station location information is received;

determining, at the mobile wireless communication handset, a coarse location of the mobile wireless communication handset based on the base station location information and on the cellular area information.

Bajikar discloses a local area augmentation system (LAAS) comprising an LAAS server (100) in conjunction with a network of receivers (130) that are co-located with cellular base stations (135). In Bajikar a subset of base stations in the cellular network provide a mobile station with correction information via the LAAS server, wherein the correction information is based on the measured location of the selected base stations. At col. 6, lines 1-9, Bajikar indicates that the correction information may be in the form of pseudorange or carrier-phase corrections, ephemeris or almanac information. The mobile station in Bajikar then uses the correction information to compute a more accurate location fix as described in col. 7, line 52 - col. 8, line 15 with reference to FIG. 4.

Contrary to the Examiner's assertion, Bajikar does not disclose "...determining ... a coarse location of the mobile wireless communication handset based on the base station location information and on the cellular area information" as in Claim 34. At col. 5, lines 43-56, Bajikar's describes determining an initial estimate of the mobile station based on the known location of the base station but not based on "cellular area information". No reasonable interpretation of the GPS correction information provided to the mobile station in Bajikar can be read on the "cellular area" of the base station. Claim 34 is thus patentably distinguished over Bajikar.

Discussion of Claim 36

Regarding Claim 36, Bajikar fails to disclose in combination with Claim 34,

... the mobile wireless communication handset is a global positioning system (GPS) enabled mobile wireless communication handset, determining a GPS based location of the mobile wireless communication handset, reducing a GPS search space with the coarse location when determining the GPS based location of the mobile wireless communication handset.

The Examiner's assertion that "... reducing a GPS search space with the coarse location when determining the GPS based location ..." in Claim 36 is taught by virtue of Bajikar's alleged teaching of "... improving measuring precise location and saving resource [sic] using the course [sic] location as determining location by GPS" with reference to col. 9, line 11 - col. 10, line 20 is erroneous.

At col. 9, line 11 - col. 10, line 20, Bajikar discloses various architectures for communicating GPS location information from GPS receivers co-located at base stations in a wireless communication network. Particularly at col. 9, lines 11-30, Bajikar describes with reference to FIG. 6. using the GPS receivers associated with the bases stations for synchronization purposes and also the use of an MSC/IWF entity to provide GPS correction information from multiple base stations to the LAAS. At col. 9, lines 31-52, Bajikar describes with reference to FIG. 7 communicating GPS location information using a cellular link (780). At col. 9, line 53 - col. 10, lines 20, Bajikar describes with reference to FIG. 8 communicating GPS location information using a

network interface (820). Claim 36 is thus further patentably distinguished over Bajikar.

Discussion of Claim 40

Regarding Claim 40, Bajikar fails to disclose in combination with Claim 34,

... receiving bearing information from the cellular communication base station, determining the coarse location of the mobile wireless communication handset based on the base station location information, the base station cellular area information, and the bearing information.

At col. 5, lines 43-56, Bajikar describes obtaining an initial estimate of the mobile station location based on the area code of the phone or based on the known location of the base station. Contrary to the Examiner's assertion, however, Bajikar does not receive and use "base station cellular area information" to determine coarse location. Bajikar also fails to disclose receiving and using "bearing information" to determine coarse location. At col. 6, lines 1-15, Bajikar indicates that the GPS correction information transmitted to the mobile station is in the form of pseudorange or carrier-phase corrections, or ephemeris or almanac information. No reasonable interpretation of the GPS correction information in Bajikar can be read on the "base station cellular area information" and the "bearing information" in Claim 40. Claim 40 is thus further patentably distinguished over Bajikar.

Discussion of Claim 44

Regarding Claim 44, Bajikar fails to disclose a

... method in a mobile wireless communication handset, comprising:

receiving bearing information from a plurality of at least two base stations,

determining a coarse location of the mobile wireless communication handset based on the bearing information;

determining, at the mobile wireless communication handset, a refined location of the mobile wireless communication handset based on the coarse location.

The Examiner's assertion that the mobile station's receipt of GPS correction information from a plurality of base stations in Bajikar corresponds to "receiving bearing information" is erroneous. At col. 9, line 11 - col. 10, line 20, Bajikar describes various location link architectures for processing and communicating GPS information obtained from a GPS receiver associated with a cellular base station. However, the GPS correction information in Bajikar is not "bearing information". At col. 6, lines 1-15, Bajikar indicates that the GPS correction information transmitted to the mobile station is in the form of pseudorange or carrier-phase corrections, or ephemeris or almanac information. No reasonable interpretation of the GPS correction information in Bajikar can be read on the "bearing information" in Claim 44.

Bajikar also fails to disclose "... determining a coarse location of the mobile wireless communication handset based on the bearing information...." Instead, at col. 5, lines 43-56, Bajikar describes obtaining an initial estimate of the mobile station location based on the area code of the phone or based on the known location of the base station. Bajikar uses the

GPS correction information (alleged by the Examiner to read on the "bearing information") to make a more precise computation of the location of the mobile station as described in col. 6, lines 12-15 of Bajikar. Claim 44 is thus patentably distinguished over Bajikar.

Discussion of Claim 45

Regarding Claim 45, Bajikar fails to disclose in combination with Claim 44,

...the mobile wireless communication handset is a global positioning system (GPS) enabled mobile wireless communication handset, determining the refined location by determining a GPS based location of the mobile wireless communication handset, reducing a GPS search space when determining the GPS based location by basing the GPS location determination on the coarse location.

The Examiner's suggestion that "... reducing a GPS search space ... by basing the GPS location determination on the coarse location ..." in Claim 45 is taught by virtue of Bajikar's alleged teaching of "... improving measuring precise location and saving resource [sic] using the course [sic] location as determining location by GPS" with reference to col. 9, line 11 - col. 10, line 20 is erroneous.

At col. 9, line 11 - col. 10, line 20, Bajikar discloses various architectures for communicating GPS location information from GPS receivers co-located at base stations in a wireless communication network. Particularly at col. 9, lines 11-30, Bajikar describes with reference to FIG. 6. using the GPS receivers associated with the bases stations for synchronization purposes and also the use of an MSC/IWF entity to provide GPS correction information

from multiple base stations to the LAAS. At col. 9, lines 31-52, Bajikar describes with reference to FIG. 7 communicating GPS location information using a cellular link (780). At col. 9, line 53 – col. 10, lines 20, Bajikar describes with reference to FIG. 8 communicating GPS location information using a network interface (820). Claim 45 is thus further patentably distinguished over Bajikar.

Discussion of Claim 47

Regarding Claim 47, Bajikar fails to disclose a

... method in a cellular communication system comprising a network of cellular base stations, the method comprising:
transmitting base station location information from at least one cellular base station;
transmitting a cellular area of the at least one cellular base station for which the base station location information is transmitted;
transmitting bearing information of the base station.

At col. 5, lines 43-56, Bajikar describes a GPS receiver co-located with a base station wherein the GPS receiver provides GPS correction information for use by a mobile station. Contrary to the Examiner's assertion, however, Bajikar does not provide the "cellular area" of the base station. No reasonable interpretation of the GPS correction information in Bajikar can be read on the "cellular area" in Claim 47.

Bajikar also fails to disclose transmitting "bearing information". At col. 6, lines 1-15, Bajikar indicates that the GPS correction information transmitted to the mobile station is in the form of pseudorange or carrier-phase corrections, or ephemeris or almanac information. No reasonable

interpretation of the GPS correction information in Bajikar can be read on the "bearing information" in Claim 47. Claim 47 is thus patentably distinguished over Bajikar.

Discussion of Claim 48

Regarding Claim 48, Bajikar fails to disclose in combination with Claim 47,

...determining a coarse location of a mobile wireless communication device in the network based upon the base station location information, the cellular area, and the bearing information of the at least one cellular base station.

In Bajikar, the mobile station location computation is performed at the mobile station, not at the network. At col. 5, lines 43-56, Bajikar describes obtaining an initial estimate of the mobile station location based on the area code of the phone or based on the known location of the base station. Contrary to the Examiner's assertion, Bajikar does not use "cellular area" or "bearing information to determine coarse location. At col. 6, lines 1-15, Bajikar indicates that the GPS correction information transmitted to the mobile station is in the form of pseudorange or carrier-phase corrections, or ephemeris or almanac information. No reasonable interpretation of the GPS correction information in Bajikar can be read on the "cellular area" and the "bearing information" in Claim 48. Moreover Bajikar uses the GPS correction information transmitted to the mobile station to make a more accurate location determination. Claim 48 is thus further patentably distinguished over Bajikar.

Discussion of Claim 54

Regarding Claim 54, Bajikar fails to disclose a

... method in a cellular communication device comprising, the method comprising:

receiving base station location information for at least one base station;

receiving a cellular area information for the base station for which the base station location information is received;

receiving bearing information of the base station for which the base station location information and the cellular area information are received.

At col. 5, lines 43-56, Bajikar describes a GPS receiver co-located with a base station wherein the GPS receiver provides GPS correction information for use by a mobile station. Contrary to the Examiner's assertion, however, the mobile station in Bajikar does receive "cellular area" of the base station. No reasonable interpretation of the GPS correction information in Bajikar can be read on the "cellular area" in Claim 54.

Bajikar also fails to disclose transmitting "bearing information". At col. 6, lines 1-15, Bajikar indicates that the GPS correction information transmitted to the mobile station is in the form of pseudorange or carrier-phase corrections, or ephemeris or almanac information. No reasonable interpretation of the GPS correction information in Bajikar can be read on the "bearing information" in Claim 54. Claim 54 is thus patentably distinguished over Bajikar.

SOUSSI ET AL
"Method of Enabling Low Tier Location Applications"
Atty. Docket No.PF01963NA

Appl. No. 09/651,382
Confirm. No. 9462
Examiner J. Lee
Art Unit 2618

Prayer For Relief

In view of any amendments and the discussion above, the Claims of the present application are in condition for allowance. Kindly withdraw any rejections and objections and allow this application to issue as a United States Patent without delay.

Respectfully submitted,

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